

REMARKS

This Amendment is in response to the Office action (Paper No. 20080421) mailed on 29 August 2008. Re-examination and reconsideration are respectfully requested.

Listing of The Claims

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims, in the application.

Status of The Claims

Claims 1 through 37 are pending in the application.

Amendment of The Claims

Claims 1-9 and 13-37 are amended in response to the Examiner's rejection.

Withdrawn of The Restriction imposed on Paper No. 20080423

Even though the Examiner did not explicitly mention that the restriction requirement as imposed on Paper No. 20080423 has been withdrawn, the applicant noticed, with appreciation, that the restriction requirement has been withdrawn because claims 1 through 37 have been examined by the Examiner as shown in Paper No. 20080423 .

Issues Raised by Paper No.20080421

Claim Rejections - 35 U.S.C. §101

Claims 34 - 37 are rejected under 35 U.S.C. §101, because the claimed invention is directed to non-statutory subject matter. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Claims 34 through 37 and paragraph [0291] are amended to response the Examiner's rejection to claims 34 through 37 under 35 U.S.C. §101.

Claim Rejections - 35 U.S.C. §102

I. Claims 1-4 and 7-8 are rejected under 35 U.S.C. §102(b) as being anticipated by Mukerjee (U.S. Patent 6,405,041)

The Examiner cited Mukerjee '041 to reject the applicant's claims 1-4 and 7-8 by asserting that Mukerjee '041 teaches everything defined in the applicant's claims 1-4 and 7-8. The applicant disagrees with and traverses the Examiner's assertion for the following reasons.

Claim 1

Firstly, the applicant submits that the applicant's invention teaches a system for interconnecting wired and wireless phone services by assigning both of a mobile communication terminal phone number (MINs) and a virtual wired phone number to a wireless terminal which is registered in both a private wireless network and a public wireless network, in order to provide the portability of the wired phone service subscriber, to reduce the dual charge of the internal subscribers in the case that a subscriber uses a wired phone service and a mobile communication service simultaneously, and to realize that a subscriber can respond to the call with all terminals of the subscriber.

The applicant's virtual wired phone number is designated by wired and wireless interconnecting unit 100 which is also a routing unit between the wired and wireless networks.

The applicant's wired terminals 230, 250 and 270 respectively have one wired telephone number (for example, 02-XXX-YYYY), i.e., an individual phone having the wired phone number format. (See paragraph [0070])

The applicant's wireless terminals 220, 240 and 260 which are registered in both of mobile zone 200 and public wireless network, respectively have two telephone numbers, i.e., the **mobile communication terminal phone number** (MINs) (for example, 016-AAA-BBBB) and the **wired phone number** (for example, 02-CCC-DDDD). The wired phone number is also named as a virtual

phone number which has a general wired phone format, which is not a phone number connected to an arbitrary wired phone terminal through a phone line but is a phone number generated in a software scheme in the wired and wireless interconnecting apparatus 100. (See paragraphs [0079] and [0080]) Private base station transceiver subsystem 210 changes public wireless caller ID to the virtual phone number. (See FIG. 9) By assigning the virtual phone numbers to wireless terminals 220, 240 and 260, an external subscriber can make a call to the corresponding wireless terminals 220, 240 and 260, as if he/she makes a call to a general wired phone service subscriber, and the fare (or rate) is also adjusted as if the call is made to the general wired phone service subscriber. Apparently, the applicant's virtual phone number of wireless terminals are unique in mobile zone 200 and different from the wired phone number of wired terminals 230, 250 and 270, because wireless 220, 240 and 260 are supposed to be able to make calls to wired terminals 230, 250 and 270. (See FIGS. 8, 16 and 24)

Secondly, the applicant submits that Mukerjee '041 introduces network interface 160 which realizes the concurrent ringing of subscriber's wired station 150 and wireless station 170. Basically, Mukerjee '041 provides a routing scenario between a wired phone network and a wireless phone network by comparing the called telephone number to mobile identification number (MIN) of subscriber's wireless mobile station 170 or 175 and called party identification (CPID) and/or route-to-extension for each subscriber's wired stations 150 contained in network interface 160.

The Examiner is respectfully noted that Mukerjee '041's wireless station 170 is located at a public wireless network 130 and wired station 150 is located at a public wired network 140. The concurrent ringing of wireless station 170 and wired station 150 happens in public networks. In other words, Mukerjee '041's has nothing to do with a call transfer within the applicant's private network 200 and a call transfer between the applicant's private network 200 and the public network.

Mukerjee '041 nowhere teaches a step of assigning a mobile communication terminal phone number and a wired phone number to wireless terminal 170 or 175. The only place where Mukerjee '041 mentions a mobile identification number is in lines 26 through 31 as follows:

“SDB 167 stores and maintains records for each subscriber, such as the mobile identification number (MIN) for each subscriber's wireless mobile station 170 or 175 and called party identification (CPID) and/or route-to-extension for each subscriber's wired stations 150.”

Therefore, Mukerjee '041 clearly states that only mobile identification numbers (MINs) are receptively assigned to the subscriber's wireless mobile stations 170 and 175. Mukerjee '041 fails to recognize the occurrence of the dual charge of the internal subscribers in the case that a subscriber uses a wired phone service and a mobile communication service simultaneously, and to appreciate that this problem could be satisfactorily addressed; consequently Mukerjee '041 does not solve the dual charge of the internal subscribers as does the applicant's invention.

Therefore, these omission by Mukerjee '041 is overwhelming evidence that the applicant's invention is not anticipated by Mukerjee '041.

Thirdly, the applicant amended claim 1 as follows:

“1. (Currently Amended) A method for interconnecting wired and wireless phone services ~~of a system for interconnecting wired and wireless phone services~~, the method comprising the steps of:

registering at least one of a plurality of wired terminals, and a plurality of public and private mobile communication terminals as extension subscribers, endowing the plurality of wired terminals with first designated wired phone numbers, and endowing the ~~extension subscribers~~ plurality of public and private mobile communication terminals with public wireless phone numbers and endowing, by a wired and wireless interconnecting unit, second designated ~~each of~~ wired phone numbers which have formats of the first designated wired phone numbers different from formats of the public wireless phone numbers of the public and private mobile communication terminals; and

when an arbitrary wired phone number is called and the arbitrary wired phone number is corresponding to a wired phone number of one of the plurality of wired terminals, making a call to the wired terminal corresponding to the arbitrary wired phone number~~[.]~~through a wired communication network; and when there is the public and private mobile communication terminal to be

simultaneously called with the arbitrary wired phone number interconnectively, making a call to [[the]] a corresponding public and private mobile communication terminal by a corresponding second designated wired phone number through a mobile communication network.”

In the amended claim 1, the applicant explicitly defines a step of endowing the public and private mobile communication terminals with the wireless phone numbers and the virtual wired phone numbers which is endowed by wired and wireless interconnecting unit 100 and have formats of the wired phone numbers different from formats of the public wireless phone numbers of the public and private mobile communication terminals. As shown in FIG. 6, the called wired phone number is firstly determined whether is corresponding to a wired subscriber, and is secondly determined whether the wired phone number is a multiple terminating number. If the wired phone number is also corresponding to wireless terminal, a virtual phone number is used to connect with the wireless terminal. As the applicant has discussed in the previous section, Mukerjee ‘041 does not teach this essential step which solve the dual charge of the internal subscribers.

Additionally, Mukerjee ‘041’s network interface 160 is merely a unit routing the call between a wired network and a wireless network, and does not generate any virtual wired number for the wireless terminals as does the applicant’s wired and wireless interconnecting unit 100.

Therefore, the Examiner is respectfully requested to reconsider the applicant's amended claim 1.

Claims 2-4 and 7-8

The applicant notes that Mukerjee '041 does not contemplate the applicant's step of endowing the public and private mobile communication terminals with the wireless phone numbers and the virtual wired phone numbers which have formats of the wired phone numbers different from formats of the public wireless phone numbers of the public and private mobile communication terminals. Consequently, claims 2-4 and 7-8 are not rendered anticipated by Mukerjee '041.

II. Claims 23-36 are rejected under 35 U.S.C. §102(b) as being anticipated by O'Neil *et al.* (U.S. Patent 5,963,864)

Claims 23 and 29

The Examiner cited O'Neil '864 to reject claims 23-36 by asserting that O'Neil '864 teaches everything defined in claims 23-36. The applicant disagrees with and traverses the Examiner's assertion for the following reasons.

Firstly, as discussed in the previous sections, the applicant submits that the applicant's invention teaches a system for interconnecting wired and wireless phone services by assigning both of the mobile communication terminal phone number (MINs) and the virtual wired phone number to a wireless terminal which is registered in both a private wireless network and a public wireless

network. The applicant's virtual wired phone number is endowed by wired and wireless interconnecting unit 100 to the wireless terminals.

Secondly, the applicant submits that O'Neil '864 teaches a system where a wired phone and a wireless phone response to one dictionary number, and the wireless phone has wireless phone number. When the one dictionary number is called, the availability of the wired phone and the wireless phone is checked, and the call is forwarded in accordance with the checked availability of the wired phone and wireless phone. When the wireless phone is available, SPC 24 provides communication processing instructions to switch 36 (lines 25-27 in column 17) and sends the inquiry to home location register 40. Home location register 40 therefore acts in response with the inquiry just like other inquiry that home location register 40 may receive from another wireless network element. (See lines 58-62 of column 17) Therefore, O'Neil '864 inherently uses the wireless phone number of wireless terminal 34 during connecting the incoming call.

Additionally, O'Neil '864 does not teach or suggest wired and wireless interconnecting unit 100 which establishes a unique virtual phone number for each of the wireless terminals.

Thirdly, the applicant amended claim 23 as follows:

“23. (Currently Amended) A method for interconnecting
wired and wireless phone services ~~of a system for interconnecting~~
~~wired and wireless phone services~~, the method comprising:

when an arbitrary external subscriber terminal makes a call to an arbitrary wired phone number through a public network, calling a first part of a wired and wireless interconnecting unit with a corresponding the arbitrary wired phone number through the public network and determining whether the called phone number is a wired subscriber number;

when the called phone number is the wired subscriber number, transferring the called phone number to a second part of the wired and wireless interconnecting unit through [[the]] a wired subscriber circuit; and

when the called phone number is not the wired subscriber number, distributing [[the]] a virtual subscriber circuit and directing the call passing through the virtual subscriber circuit to a wireless terminal, with the virtual subscriber circuit being selected and transferred to the second part of the wired and wireless interconnecting unit, and with the virtual subscriber circuit employing a virtual wired phone number of the wireless terminal, endowed by the wired and wireless interconnecting unit; and distributing the call to the wireless terminal by the endowed virtual wired phone number of the wireless terminal through the virtual subscriber circuit."

In the amended claim 23, the applicant defines that the virtual subscriber circuit employing a wired phone number of the wireless terminal endowed by wired and wireless interconnecting unit 100 to wireless terminals, which have formats of the wired phone number different from formats of public wireless phone number of the wireless terminal, and defines a step of distributing the call to the wireless terminal by the endowed wired phone number of the wireless terminal.

O'Neil '864 does not teaches that a virtual wired phone number is endowed by a wired and wireless interconnecting unit and does not teaches a step of distributing the call to the wireless terminal by the endowed wired phone number of the wireless terminal. Therefore, O'Neil '864 does not teach everything as defined in the amended claim 23 and thus the Examiner is respectfully asked to withdraw the rejection to claim 23.

The Examiner rejected claim 29 for the same reasons which support the rejection to claim 23. Therefore, the applicant accordingly amended claim 29 to define that the virtual subscriber circuit employing a wired phone number of the wireless terminal endowed by wired and wireless interconnecting unit 100 to wireless terminals, which have formats of the wired phone number different from formats of public wireless phone number of the wireless terminal, and defines a step of distributing the call to the wireless terminal by the endowed wired phone number of the wireless terminal. The Examiner is respectfully asked to reconsider the applicant's amended claim 29.

Claims 24-28 and 30-36

The applicant notes that O'Neil '864 does not contemplate the applicant's wired phone number endowed by a wired and wireless interconnecting unit and a step of distributing the call to the wireless terminal by the endowed wired phone number of the wireless terminal. Consequently, 24-28 and 30-36 are not rendered anticipated by O'Neil '864.

Claim Rejections - 35 U.S.C. §103

I. Claims 5 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mukerjee (U.S. Patent 6,405,041) in view of Knoerle *et al.* (U.S. Patent 6,694,004).

The applicant notes that the Examiner's proposed combination of Mukerjee '041 and Knoerle'004 does not contemplate the applicant's step of endowing the public and private mobile communication terminals with the public wireless phone numbers and the virtual wired phone numbers which have formats of the wired phone numbers different from formats of the public wireless phone numbers of the public and private mobile communication terminals. Consequently, claims 5 and 6 are not rendered anticipated by Mukerjee '041 and Knoerle'004.

II. Claims 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mukerjee (U.S. Patent 6,405,041) in view of Glass (U.S. 2002/0168968).

Glass '968 in paragraph [0014] teaches that, when a call is place by wireless terminal 200, service control point 250 associates the wired telephone number of wired terminal 210 with the call. In other words, wireless terminal 200 uses the phone number of wired terminal 210 as the phone

number of outgoing call. As discussed in paragraphs [0005] and [0006], Glass '968 shows the same wired phone number for both of wired terminal 210 and wireless terminal 200 to the caller in order to inform the caller that the caller is called by a same subscriber.

The applicant's invention however, separately assigns virtual wired telephone numbers to wireless terminals 220, 240 and 260, and uses the virtual wired telephone numbers to virtually make the caller think that the caller is calling a wired terminal and thus the fare of the call is adjusted as if the call is made to the general wired phone service subscriber. The virtual telephone number is different from the wired telephone numbers assigned to the subscriber's wired terminals. In other words, virtual wired telephone numbers are unique in mobile zone 200.

In the assumption that wireless terminal 220 is given a virtual telephone number identical to wired telephone number of wired terminal 230, when wireless terminal 220 calls wired terminal 230, the system will think that wireless terminal 220 is calling itself and thus the call will not be properly completed. Therefore, Glass '968 simply uses the existing wired phone number as the caller ID and does not teach the applicant's virtual telephone number especially generated by wired and wireless interconnecting unit 100.

In the Examiner's proposed combination of Mukerjee '041 by Glass '968, Mukerjee '041's wireless station 170 uses the wired number of wired station 150. In such system, wireless station 170 may not properly make a call to wired station 150 and thus the Examiner's combination fails to teach

the applicant's invention as defined in the amended claim 9.

Additionally, the applicant's wired and wireless unit 100 generates the virtual phone number to the wireless terminals. Glass '968 does not teach a step of generating a virtual phone number to the wireless terminals by an interconnecting unit between the wired and wireless networks.

Therefore, the Examiner's proposed combination of Mukerjee '041 by Glass '968 fails to teach the applicant's invention defined in the amended claim 9.

III. Claims 10 through 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mukerjee and Glass and further in view of O'Neil *et al.* (U.S. Patent 5,963,864).

The applicant notes that the Examiner's proposed combination of Mukerjee '041, Glass '968 and O'Neil '864 does not contemplate the applicant's virtual wired number with which a wireless terminal is endowed by the wired and wireless interconnecting unit, with the virtual wired number having a format of wired phone numbers of wired terminals and being different from the wired phone numbers of the wired terminals. Consequently, claims 10 through 22 are not rendered anticipated by Mukerjee '041, Glass '968 and O'Neil '864.

IV. Claim 37 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mukerjee.

The Examiner rejects claim 37 for the same reasons which are used to reject claim 23. The applicant amended claim 37 in order to define the same limitations as defined in the amended claim

23. And the same arguments against the Examiner's rejection to claim 23 are applied to the Examiner's rejection to claim 37.

Double Patenting

Claims 1 through 37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 7,388,845. Although the conflict claims are not identical, they are not patentably distinct from each other because both the claims of the instant application and the U.S. Patent No. 7,388,845 present a method for interconnecting of system for interconnecting wired and wireless phone services.

The Examiner rejected claims 1 through 37 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 7,388,845. The applicant disagrees with and traverse the Examiner's rejection for the following reasons.

Firstly, the applicant submits that Laroya '845 teaches "power control methods and apparatus for use in a sectorized cell of an OFDM communications system. Each sector of a cell uses the same frequencies and transmission times and is synchronized with the other sectors in the cell in terms of tone frequencies used at any given time and symbol transmission times. Tones are allocated to channels in each cell in the same manner so that each channel in a sector has a corresponding channel in another sector. Power differences between channels in different sectors are maintained

to be within a pre-selected power difference. Different channels in a cell are assigned different power levels. Wireless terminals are assigned to channels based on channel feedback information. Wireless terminals with poor channel conditions are allocated to higher power channels than wireless terminals with good channel conditions. Lower power channels often include more tones per symbol time than high power channels.” (See Laroia ‘845’s Abstract) Laroia ‘845 teaches a power control method in different channel and has nothing to do with the applicant’s invention.

Secondly, Laroia ‘845 and the applicant’s invention do not have any inventor in common and are not commonly owned.

Laroia ‘845 has inventors: Laroia; Rajiv (Basking Ridge, NJ), Lane; Frank A. (Asbury, NJ), Li; Junyi (Bedminster, NJ); while applicant’s invention has inventors: Ko, Chae-Ho; (Suwon-si, KR) ; Ahn, Tae-Hong; (Yongin-si, KR) ; Lee, Soon-Phil; (Suwon-si, KR). Laroia ‘845’s assignee is QUALCOMM Incorporated, while the applicant’s invention’s assignee is Samsung Electronics. Co., Ltd. Samsung Electronics. Co., Ltd. did not have a Joint Research Agreement with QUALCOMM Incorporated that was in effect on or before the date the applicant’s invention was made.

Therefore, according to MPEP §804, doubling patenting rejection is not properly when the applicant’s invention and Laroia ‘845 do not have common inventor and common owner, and the assignees of applicant’s invention and Laroia ‘845 did not have a Joint Research Agreement with QUALCOMM Incorporated that was in effect on or before the date the applicant’s invention was made.

Therefore, the Examiner's double patenting rejection is ill founded, and the Examiner is respectfully asked to withdraw the rejection.

In view of the foregoing amendments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. If there are any questions, the examiner is asked to contact the applicant's attorney.

No fee is incurred by this Amendment.

Respectfully submitted,



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